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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/092,077	03/06/2002	Christian Wamprecht	Mo6804/LeA 34,849	8533
157	7590	06/10/2004	EXAMINER	
BAYER POLYMERS LLC 100 BAYER ROAD PITTSBURGH, PA 15205			NILAND, PATRICK DENNIS	
			ART UNIT	PAPER NUMBER

1714

DATE MAILED: 06/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/092,077	Applicant(s) WAMPRECHT ET AL.	
	Examiner Patrick D. Niland	Art Unit 1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. The amendment of 3/22/04 has been entered. Claims 1-12 are pending.
2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
3. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat. No. 4079028 Emmons et al..

Emmons discloses a polyurethane thickener which is the reaction product of diisocyanate, polyether polyol having 3 or more OH groups, monoalcohol and monoamine. Upon reaction with the isocyanate, the polyetherpolyol will have 4 or more OH groups where it began with 3 OH groups and will possess urethane groups. It is not possible to distinguish this portion of the reaction product of the instant claims and the prior art based on the ingredients which initially formed the polyurethane segment. In other words, making the polyurethane thickener from only the instantly claimed polyether a1 will necessarily give moieties falling within the scope of both a1 and a2 upon reaction with diisocyanate. It is also expected that the patentee's reaction of diisocyanate with the polyether polyol will give a mixture falling within the scope of the instant claim 8, step A.

Upon reaction with the diisocyanate, the polyetherpolyol will have 4 or more OH groups where it began with 3 OH groups and will possess urethane groups in an intermediate product which will necessarily occur as predicted by statistics involved in such reactions of large numbers of molecules, as would be readily understood by the ordinary skilled artisan as such chemical statistics are taught in undergraduate school. It is emphasized that this relates to the intermediate in which one molecule of

diisocyanate has reacted to connect two molecules of polyol. It is understood that the reaction will proceed further to give the final polyurethane, which may or may not have any free OH groups. Since the instant claims are directed to the final polyurethane per se and the method of making it, it is enough that the final product have moieties which could be attributed to the instantly claimed components of component A, where related to the polyurethane claims, and that such intermediates form, where related to the method claims. The applicant provides no probative evidence that such intermediates do not form. The PTO has no facilities to make such determinations and it is axiomatic that the onus is on the applicant to provide such evidence. The polyurethane need not be made from the reactants of the instant claims because the instant claims are directed to the polyurethane final product and the method of making it. It is not possible to distinguish the polyurethane of the instant claims and the polyurethane of the prior art based on the ingredients which initially formed the polyurethane segment. In other words, making the polyurethane thickener from only the instantly claimed polyether a1 will necessarily give moieties falling within the scope of both a1 and a2 upon reaction of 2 or more molecules of polyether polyol with diisocyanate. Such intermediate reaction will necessarily occur statistically and gives the components of the instant method claims. It is also expected that the patentee's reaction of diisocyanate with the polyether polyol will give a mixture falling within the scope of the instant claim 8, step A, at least as an intermediate of the reaction of Emmons. This again is expected from statistical analysis of the reaction occurring in Emmons.

Emmons discloses the combination of monols and amines at column 9, lines 46-68 and column 10, lines 1-19. The degree of picking and choosing required to arrive at the instantly claimed invention is sufficient to remove this reference from the scope of an anticipating reference under the relevant caselaw, such as but not limited to *In re Baird*.

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See column 2, lines 59-68; column 3, lines 1-68, particularly 31-61; column 4, lines 1-5; column 6, lines 1-68; column 8, lines 1-23 and 48-68; column 9, lines 46-68; and the remainder of the document, particularly the examples. It would have been obvious to one of ordinary skill in the art at the time of the instant invention to use the instantly claimed combination of ingredients to form the thickener of the patentee because the patentee clearly encompasses such mixtures of reactants and the instantly claimed combination of ingredients would have been expected to give the thickening properties discussed by the patentee. The smaller amount of picking and choosing in the prior art is deemed by the examiner to lead to the choice of the instantly claimed reactant combinations discussed above. Thus, the motivation to combine the reactants taught by one single reference to be useful together and selected from a rather small pool of reactants is deemed to make the instant claims obvious over the cited prior art for the reasons stated above. The applicant's arguments in this regard are therefore not persuasive. It is not seen that the polyurethane thickeners would not necessarily have a softening temperature falling within the scope of that of the instant claims and the instantly claimed softening temperature is typically expected of such polyether based polyurethane thickeners of the molecular weights encompassed by the patentee. It is noted that the method of measuring the instantly claimed softening point is not specified and such methods of measuring polymer softening points lead to different values. The applicant has also not claimed a method of making the polymer but has claimed the polyurethane per se. There is no probative evidence that the instantly claimed reactants do not give the polyurethane argued above nor that they give any unexpected results. The instantly claimed softening temperature is not seen as giving any unexpected results. The isocyanate of column 8, lines 48-61-62 is isophorone diisocyanate. This list is not so large as to mitigate against a finding of anticipation.

The isocyanate is disclosed with sufficient specificity to anticipate the isocyanate of the instant claims particularly in view of the fact that it is one of the most commonly used isocyanates.

Applicant's argument "On the other hand, in the present invention a slight excess of isocyanate is always used, which is eliminated at the end of the preparation (see the examples in the specification). is not persuasive since the instant claims do not require elimination of the excess NCO at the end of the preparation and the instant claims encompass the use of a vast excess of OH to NCO at the start, presumably of the reaction, at 0.5:1 NCO:OH, which contradicts the applicant's arguments regarding an excess of NCO always being required, as well as the stoichiometric amount of NCO:OH, i.e. 1:1 NCO:OH of the prior art. This argument is therefore not born out by the applicant's own claims and does not distinguish the product of the instant claims over that of the patentee. Column 8, lines 61-62 is isophorone diisocyanate. This list of isocyanates is not so large that the ordinary skilled artisan would not readily use this most popular of diisocyanates in the reaction product of the patentee. The applicant's argument re isophorone diisocyanate is therefore not persuasive. This list of isocyanates is not "every possible moiety". It is a few well known very often used urethane forming monomers. No unexpected results are seen in a manner commensurate in scope with the instant claims and the cited prior art stemming from the use of isophorone diisocyanate, including the alleged positive rheological properties argued by the applicant's representative. The instantly claimed polyurethane is not seen to be distinct from that of the prior art based on the use of the reactants of the instantly claimed component A.

Applicants request authority for the assertion that Emmons' polyurethane discussed above necessarily contains moieties having the instantly claimed combinations of

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polyols of the instantly claimed component A. The applicant's representative is noticed that the instant claims are directed to the polyurethane per se. The polyurethane of Emmons may have a molecular weight of up to 200000 per column 2, lines 56-58. This polyurethane will contain several units of the patentee's polyether polyols which must have "at least 3 OH groups" which are connected by diisocyanates. The applicant's representative is to consider the reaction product of one molecule of diisocyanate with two molecules of polyether polyol having at least three OH groups. The final reaction product will be a polyol having 4 OH groups and 2 urethane groups. This moiety will be present in the polyurethane of Emmons several times and falls within the scope of the instantly claimed component a2) clearly. The other polyether polyols of Emmons having at least 3 OH groups will also be present repeatedly in the polyurethane of Emmons of higher molecular weights and clearly falls within the scope of the instantly claimed component a1). This was clearly described above. Since the polyurethane final product is claimed in the instant claims, not the process of making it, and the polyurethane of Emmons has the moieties required by the instantly claimed component A, as clearly described above and more clearly described now, Emmons' polyurethane falls within the scope of the polyurethanes of the instant claims regarding the instantly claimed component A. This should be readily clear to the applicant's representative based on the rudiments of polyurethane reactions of polyols and polyisocyanates and should require no further authority as it is clear on its face. The examiner also notes that at least 3 OH groups encompasses 4 OH groups and such compounds reacted with the diisocyanate of Emmons will have 6 OH groups in the moiety present in the polyurethane of Emmons by the thought experiment described above.

The applicant's argument that "Surely the reaction of two or more isocyanate groups in the polyisocyanates used in Marz or Emmons can react with two or more hydroxyl

groups on the same polyol. This is true. But the instant claims are to a polyurethane and the polyurethane of Emmons or Marz will necessarily contain the moieties implied by the components of the instantly claimed component A, as clearly illustrated above. The examiner does not have to illustrate that any pathway is more favorable than another in making the final polyurethane because the instant claims do not have enough limitations to imply a final product by which any particular pathway is favored and the polyurethane of Emmons or Marz will clearly have the moieties implied by the instantly claimed component A. The applicant can draw out all of the possible polyurethanes which can result from the high molecular weight polyurethane of Emmons using the ingredients of Emmons and will see that he can in fact excise the moieties which would have resulted from the instantly claimed component A.

The applicant questions whether the instantly claimed obviousness rationale is in Emmons and requests that the examiner cite another reference to support his position on Emmons. No other reference is needed. The motivation and teachings requisite for obviousness are clearly in Emmons on its face, more so now that the applicant's representative is expected to more clearly see how the polyurethane of Emmons will necessarily contain the moieties implied by the instantly claimed component A. No affidavit is required for the above reasons also. This rejection is therefore maintained.

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In*

re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1-12 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-12 of copending Application No. 10/092212. Although the conflicting claims are not identical, they are not patentably distinct from each other because they overlap in scope such that it would have been obvious to one of ordinary skill in the art at the time of the instant invention to make the instantly claimed invention from the claims of the copending application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

6. Claims 1-12 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-12 of US Pat. No. 6642302 Wamprecht et al. which is allowed Application No. 10/091960. Although the conflicting claims are not identical, they are not patentably distinct from each other because, although the claims differ somewhat in scope, they overlap such that it would have been obvious to the ordinary skilled artisan at the time of the instant invention to

perform the instantly claimed invention from the claims of the copending application because most of the copending claims' invention is that of the instant claims.

No arguments have been applied to this rejection. There is no process for holding this rejection in abeyance and it is maintained for the above reasons.

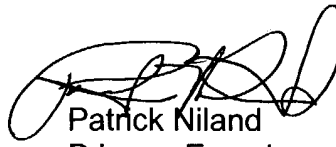
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick Niland whose telephone number is (703) 308-3510. The examiner can normally be reached on Monday to Friday from 9:30 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan, can be reached on (703) 306-2777. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

pn

June 8, 2004



Patrick Niland
Primary Examiner
Art Unit 1714